



AMTNJ News

Association of Mathematics Teachers of New Jersey / 856-358-4373

AMTNJ Annual Conference: 2006 NCTM Eastern Regional Conference

Sept 2006

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Visit us on the web at: www.amtnj.org

Dive Into Mathematics: It's a 'Shore' Thing!

Make plans now to attend on October 19-21, 2006 in Atlantic City, New Jersey.

The conference theme, "Dive Into Mathematics: It's a 'Shore' Thing," includes a multitude of sessions by local, national, and international mathematics educators. With the 2006 Focus of the Year: "Show Me the Math: Learning Through Representation," the importance of Representation as both process and product will be highlighted. We will examine the role of representations in mathematical learning and their relationship to students' conceptual understanding. Cognition requires

students to be reflective as they engage in the translation between what they see, or external representations, and what they understand, or internal representations. As educators, we will continue to explore pedagogical practices that assist students in their move along this continuum through a variety of workshops, gallery workshops, sessions, and minicourses.

A Pre-registration form is include on page 3 of this newsletter. For more information and conference details visit the NCTM webpage at www.nctm.org/meetings/atlanticcity or the AMTNJ website, www.amtnj.org.

Join us by the sea for three days of interesting mathematical discourse, investigations, and lots of salt water taffy!

President's Message

by Deborah L. Ives

As educators, we all seek to share resources and ideas to improve the teaching and learning of mathematics for our students. We do this through our local schools and districts, and as members of the AMTNJ, we meet and network statewide. We will have an opportunity to expand and include contact with mathematics educators on a national level at our annual conference this year as we host the **National Council of Teachers of Mathematics Eastern Regional Conference on October 19-21, 2006 in Atlantic City, NJ**. Information regarding registration is included in this newsletter.

With a critical need to meet increasing challenges in mathematics and science education, the Science, Technology, Engineering, and Mathematics (STEM) Education Coalition was formed to raise awareness of key issues. A wealth of information can be obtained from the coalition's website, www.stemedcoalition.org, which explicitly states, "The STEM Education

Coalition is composed of advocates from over 40 diverse groups representing all sectors of the technological workforce – from knowledge workers, to educators, to scientists, engineers, and technicians. The participating organizations of the STEM Education Coalition are dedicated to ensuring quality STEM education at all levels." The National Council of Teachers of Mathematics is one of these organizations.

As a local affiliate of the NCTM, AMTNJ encourages all members, as part of a broader mathematical community, to promote the coalition's objectives, several of which are: to strengthen effective STEM education programs at all levels K-16+, support teacher education initiatives, increase partnerships to improve STEM education, encourage increased federal investment in educational research, and to contact national elected officials and key opinion leaders to promote attention to the critical role that STEM education plays in our changing world.

There are many national educational initiatives currently before the 109th Congress related to STEM legislation, as well as

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President's Message

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the reauthorization of NCLB. As mathematics educators, we are in a unique position to advocate for our students and fellow teachers based on our own classroom experiences. Visit

www.nctm.org/advocacy to learn more about how you can contribute and provide input as decisions are made and changes take place on the local, state, and national level. Please feel free to also contact me via email at djives123@aol.com, as well as any Executive Council member or liaison, at any time with your thoughts and ideas.



Central New Jersey Math and Science Education Stakeholders Day, July 13 at the Library of Congress in Washington D.C. Pictured above (L-R): C. Archetto, co-editor of AMTNJ Newsletter, Congressman Rush Holt, Deby Ives, President of AMTNJ and Warren Crown, Rutgers University.

NCTM Atlantic City Conference Preregistration Deadline Sept. 22

Conference Volunteers Needed in AC

Our organization cannot be successful without the help of many dedicated and professional educators. Get involved and be a part of an exciting mathematical community. Opportunities range from becoming a committee chair to volunteering for one hour at a conference. In Atlantic City, volunteers are needed to serve as guides, registration aides and meeting room hosts. Please plan to give a few hours of your time as you attend the conference. Fill out the volunteer form on the next page of this newsletter or visit www.amtnj.org and click on "Atlantic City Volunteer Form". A representative from AMTNJ will contact you. Or you may contact Pat Knutowicz, Volunteer Registry Chair, AMTNJ, PO Box 7, Glassboro, NJ 08028. Thank you.

AMTNJ CALENDAR of EVENTS

Oct. 19-21	AMTNJ Annual /NCTM Regional Conference Atlantic City, New Jersey
Nov. 9-10	NJEA Convention Sessions and Booth Atlantic City
January	Grades 5-6-7 Testing Conference
February	GEPA Conference
May	Spring Regional Conferences

Mini-Grants Available

In order to assist local groups in meeting to discuss mathematics education issues, AMTNJ has made available mini-grants in amounts up to \$500. This year's mini-grants will be awarded for multi-district coordination activities. Please visit www.amtnj.org for an application or contact Robert Cunningham, PO Box 548, Bryn Athyn, PA 19009.

Former AMTNJ Scholarship Winners: Where Are They Now?

Recipient Bret Hanlon Loves Teaching and Loves Research

Bret Hanlon graduated from Jackson Memorial High School and received an AMTNJ Scholarship in 1997. Since then he has excelled in the field of mathematics earning degrees in Mathematics, Statistics, and Economics. He currently attends Cornell University where, since the fall of 2005, he has been pursuing his PhD in Statistics. Bret was eager to share his story with AMTNJ.

“My general interest is in stochastic modeling. I have collaborated with colleagues at Texas Tech and at the Royal Institute of Technology to model information flow in networks. We applied these models to disease spread and genetic diversity. I would like to study stochastic modeling in neuroscience.”

“I love teaching and I love research. As a graduate student I have been fortunate to have many opportunities to do both.” Bret’s numerous summer research projects include a project that studied “statistical analysis and stochastic modeling of cell growth data.” This summer he worked at

the “Laboratory of Neuro Imaging (LONI) at UCLA on a project to develop a mathematical representation of biological shapes. Bret’s teaching experiences are varied and include both tutoring and college teaching. During the summer of 2002 he worked as a math tutor for the Summer Bridge Program held at UNC. Summer Bridge helps educationally-disadvantaged students make the transition from high school to college.

At Cornell, Bret is working with Professor Anand Vidyashankar on the problem of data confidentiality. “There are many instances where data on individuals (microdata) is publicly available (e.g. census data). Clever ‘data snoopers’ could potentially use this data to violate individuals’ privacy. Even though census data, for example, is stripped of key identifiers such as Name, SS #, and date of birth, data snoopers can use record linkage software to link census data to other databases which contain these key identifiers. So, there is



a need to perturb publicly released data in a way to protect the survey respondents’ privacy. But how useful is the data after it is perturbed? Can legitimate users of the data still draw valid inferences? That is what they are trying to discern.”

Bret hopes to become a college professor at a university that values teaching as well as research. “Mathematics is a gateway to opportunities. Whether students plan to pursue careers in the sciences, medicine, or law, a strong mathematics

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Presidential Awards for Excellence in Math and Science

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST), established in 1983 by The White House and administered by the National Science Foundation (NSF), is the most prestigious public award for teachers of mathematics and science that our country has to offer. This year’s recipient of this prestigious award, is Ms. Bonnie Gendaszek from John Witherspoon Middle School. Ms. Gendaszek sees herself as a facilitator in her class, a person who asks and redirects questions. “My strategy in class is to constantly question my students and keep them actively engaged,” said

Gendaszek. She believes that the days of just lecturing to your class are a thing of the past. “I don’t want them to just copy what I have written on the board,” she said. “They must think and express their ideas and demonstrate they understand a concept. Then they write it down.” I have high expectations for my students and they know that. I express confidence in them and do everything I can to help them succeed. I make myself available for ‘extra help’ everyday before school and am always willing to talk outside of class.

Presidential Award winners serve as models for their colleagues and as leaders

in the improvement of mathematics and science education. State finalists are honored at public ceremonies and at a recognition luncheon. National winners receive an all expense-paid trip to Washington D.C. for two and \$10,000 to be spent at their sole discretion. The program will be identifying outstanding mathematics and science classroom teachers in grades K through 6 in all fifty states for the school year 06-07. Next year, grades 7-12 will be eligible.

For more information on the PAEMST awards program and to access the nomination forms, please check out www.paemst.org

AC06W

Individual Preregistration Form NCTM Regional Conference and Exposition Atlantic City, New Jersey • October 19–21, 2006

**Preregistration Deadline
is September 22, 2006**

NCTM Member # _____

Name _____

Nickname _____

Please check ONE box for preferred mailing address, but complete both columns for our records: (Fields marked with an * are required)

Institutional Address

Home Address

Institution* _____

Address* _____

Address* _____

City* _____

City* _____

State/Prov* _____ ZIP/PC* _____

State/Prov* _____ ZIP/PC* _____

Country* _____

Country* _____

Phone* _____

Phone* _____

Preferred E-mail* _____

(Please include for confirmation purposes.)

Please indicate your professional level to be printed on your badge:

- Grades PK–2 Grades 3–5 Grades 6–8 Grades 9–12 Grades K–12 Higher Education Supervisor Retired

Nonmember Rates:

- **Full Conference** \$206

Includes 1-year individual membership. Choose one school journal from the list below:

- Teaching Children Mathematics* (Pre-K–6)
- Mathematics Teaching in the Middle School* (5–9)
- Mathematics Teacher* (8–14)

For mailings outside the U.S., add \$18 for your journal selection.

- **Nonmember Full Conference—If you do NOT wish to receive membership and a journal, please check here.** \$206
- **Nonmember One-Day** Thu Fri \$127*
- **Student Nonmember**** \$77*
(must be a fulltime student)

* Student nonmember, one-day nonmember, and guest registration fees do **not** include an NCTM individual membership.

**REQUIRED FOR STUDENT REGISTRATION:

Professor/Administrator Name: _____ E-mail: _____

REGISTRATION AFTER SEPTEMBER 22: If your preregistration form and payment are not received by September 22, 2006, you will need to register in Atlantic City at the on-site rate, (found on page 13). You will also need to pick up your badge and program book in Atlantic City.

← Currently a member and wish to renew? OR would you like multiple journals, or JRME? See facing page for more information.

WAYS TO REGISTER

Online
www.nctm.org/
meetings/
atlanticcity/
registration.htm



Telephone
(888) 747-8704
or (972) 349-5804



Mail
NCTM
Regional
Conferences
P.O. Box 841207
Dallas, TX 75284-1207



Fax
(972) 349-7715



ADA REQUEST

Contact NCTM with any special needs requests as defined by ADA at (703) 620-9840, ext. 2139; fax (703) 295-0956; or e-mail at ada@nctm.org by **September 7, 2006**. See page 12 for complete details.

METHOD OF PAYMENT

Return this form with a check made payable to NCTM or credit card information to NCTM Regional Conferences, P.O. Box 841207, Dallas, TX 75284-1207. Canadians must submit payment by either check in U.S. \$ drawn on a U.S. account, money order in U.S. funds, or credit card. If paying by credit card, billing will be subject to the CAN\$/U.S.\$ exchange rate. **Approved purchase orders are accepted; an original purchase order must be sent with registration forms.**

- Check (made payable to NCTM)
- American Express
- Visa
- MasterCard
- Money Order
- Original P.O.

Credit Card Number _____ Exp. Date _____

Signature (required for credit card payments) _____

AMOUNT OF PAYMENT

Registration Fees	\$ _____
Postage (outside U.S.)	\$ _____
TOTAL AMOUNT in U.S.\$	\$ _____

Cancellations: NCTM will refund fifty percent (50%) of the registration fee on cancellations received, in writing, prior to the conference, after we receive your registration badge. Cancellations received after October 18 will not be eligible for refunds. See page 14 for all cancellation policies. See page 12 for NCTM's promotional materials policy.



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

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*AMTNJ wants its
newsletter to be fair and
correct in every way. If
you have a question
or comment about any
information in this
newsletter contact either of
the co-editors.*

2006 AMTNJ Scholarship Winners

by Ken Herskovits

AMTNJ is proud to announce four annual scholarship winners. The AMTNJ scholarship is designed to encourage high school students who will attend college with the intention of becoming math teachers. This is our tenth year of the scholarship program. Our winners this year are: **Christina Wilps** of Middletown High School South, **Christopher Mango** of New Providence High School, **Melissa Maynard** of Parsippany High School and **Jessica Jakositz** of Lacey Township High School. Each winner will receive \$1,000 with the opportunity to renew their scholarships each year they attend college.

Christina Wilps has magically balanced her school work with her extracurricular activities. During the busy months of November and December, Christina performed 15 shows with the group *Holiday Express*, performing for nursing homes and other groups. Her schoolwork never suffered. With a GPA of 4.8 Christina's class rank is 15 of 349. She earned an SAT math score of 760.

Christina always sought to become a teacher. Christina states, "Children are truly the future of America, and teachers should be admired for dedicating their lives to arming them with the tools necessary to succeed in both academic and social settings. I would love the opportunity to make an impact on the lives of others, and teaching is certainly a great way to do just that." She continues, "I believe that intrinsic motivation is one of the greatest things about learning, so I will strive to install a zest for math in my students that would make them want to learn for the sake of exploring the world of math, not because we have a test next week... One thing is certain; when I become a math teacher, I will have an Einstein poster on the wall emblazoned with the quote which has always inspired me to search through the wonderful world of math." Next year, Christina will be attending The College of New Jersey.

At New Providence High School, **Chris Mango** has taken a complete regimen of honors and four AP courses earning a GPA of 4.1 and an SAT math score of 790. Ever since he was in elementary school, Chris loved math and teaching. In his essay, Chris writes, "I realize that math is a topic that I plan on appreciating not only throughout my college career, but for the rest of my life. Also, over the year, I have been put in charge of teaching and tutoring many children of different age levels, and I have enjoyed every minute of it. I realize that becoming a teacher is my ideal profession, and there is no better subject for me to teach than mathematics."

For the past two and one-half years, Chris has been working at *Score!*, an educational center. Reflecting on his experiences Chris states, "I enjoy teaching them academically, but I really love showing them how much fun learning can be ...and I work hard to assure that each student has a wonderful experience every time." He concludes, "My love of mathematics, coupled with my desire to impact generations of children through education, give me the drive I need to work relentlessly towards reaching my dream of becoming a math teacher."

Jessica Anne Jakositz of Lacey Township High School has been able to handle her rigorous college level mathematics classes along with her ambitious extra-curricular activities. Her activities include National Honor Society, Student Government Association, and Future Teachers of America. Jessica has a special passion for athletics. On the field hockey team she became the second highest team scorer in '05, and is on Monmouth/Ocean Counties list of leading scorers in '05. Academically, Jessica just completed taking a most rigorous AP program including Calculus and Statistics earning her a GPA of 4.7 and class rank of 6 out of 377. She scored 730 on her math SAT.

In community service, Jessica was a Big

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VOLUNTEERS NEEDED!

Be a part of the 2006 NCTM Regional Conference & Exposition Atlantic City, New Jersey – October 19-21, 2006

The Atlantic City Local Arrangements Committee is seeking volunteers who want to work in any of the capacities listed below. We look forward to working with you at the NCTM 2006 Regional Conference and thank you for volunteering.

Please print:

Name: (first & last)

Address: (Street or PO Box)

City _____ State _____ Zip/PC _____

Phone #: Work (____) _____ Home (____) _____

Fax (____) _____

Email: _____

Please check the committee(s) on which you would like to serve. **Indicate your preferences by numbering your first three choices.**

- Hospitality:** Staffs the Hospitality Desk during the Regional Meeting hours; offers attendees information on and direction to local services, sites, and events.
- Meeting Rooms:** Checks meeting rooms between presentations; places "Session Full" signs outside of meeting rooms; clears meeting rooms after presentations.
- Special Events:** Assist with special entertainment events.
- Special Needs:** Assists individuals with special needs; assists with special needs equipment.
- Signs:** Arranges for presentation signs to be placed outside each meeting room and changes signs as needed.
- Student Exhibits:** Assist with staffing the Student Exhibits booth

Date and Time Preferences: _____ (Date) _____ (Time)

Complete and return by September 1, 2006 to:

Pat Knutowicz,

AMTNJ, PO Box 7, Glassboro, NJ 08028

Telephone: (973) 669-0744

Fax: (856)358-4374

E-mail: pknutowiczwayne@yahoo.com

2006 Scholarship Winners

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Brother/Big Sister. She has dedicated much of herself to tutoring students who are in need of academic assistance. This endeavor began when she was in the third grade and sharing a seat on the school bus with a second grader named Alissa; she carefully thought out and wrote in her notebook for her grade level. It was not only the first time Jessica realized how much she loved math but how much she loved to teach. In fact, when her younger sister was 10 days old and Jessica was 7, she began crafting a lesson plan laying out for all of her sisters pre-education. She filled her days with playing school, counting spare change of anyone who would let her and never gave up an opportunity to help a friend with school work.

Jessica writes in her essay, "Now it is almost ten years later, and I still have an ardent passion for teaching." She concludes, "I cannot wait to give to others as my teachers have given to me. I'm acting on a dream, following

a passion I have been chasing ever since I was about eight years old."

Melissa Maynard is another of our recipients who seems to strive with a full load of extra-curricular activities and course load of honors classes. Attending Parsippany High School, this year, she enrolled in 4 AP classes. She has a GPA of 4.459 and ranks 7 out of 238 in her class. She scored a 730 on the math portion of her SAT.

Melissa, as her guidance counselor had noted, is a selfless young lady who gave up a week of her summer to live and work with the homeless in Maryland and has a true love for helping others. Her greatest personal achievement outside of school was becoming captain of her varsity high school cheerleading squad which she wanted to accomplish since she was little.

Melissa is a member of the *Target Teach* program at her high school. *Target Teach* is a program in which students are matched up with a teacher to learn about what it's like to be a teacher. As a teacher apprentice,

she traveled to an elementary school three times a week working with a 2nd grade teacher. She has tutored many students, attended monthly seminars and volunteered as a counselor in the town's Safety Town which is a nursery to her church.

In her essay, Melissa says, "My choice for a future career is to become an elementary education teacher specializing in math. The reason is simple: I love working with children and I always enjoyed the study of math. While observing and helping my mentor teacher, I have noticed that some traits such as patience, a strong desire to help young child are all important. Not only should teachers have these characteristics, but they should have enough energy and enthusiasm. I realize I possess these qualities and can envision myself as an extremely successful teacher."

Melissa concludes, "During my studies at college, I hope to develop a teaching approach that will enable me to instill true love for learning in my students. By pursuing a career as an elementary teacher, I would have the opportunity to make a difference in a child's life and leave a lasting impression."

In September, Melissa will be attending Marist College.

Where are they now?

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background is a great asset (and often a requirement). High school math teachers should convey the importance of a strong math background in ways other than simply telling their students that math is important. For instance, professionals from academics and a variety of industries should be invited to high schools to speak on this subject."

"The AMTNJ Scholarship presentation was a memorable day. I had a chance to speak with a number of the math teachers who were on the scholarship committee. I was impressed with these teachers' dedication to their field. And I was also impressed with the AMTNJ's goal of encouraging the development of future high school math teachers

through the scholarship program. This experience has contributed to my desire to be involved with mathematics education on many levels."

"When I started college, my plan was to become a high school math teacher. My plan has evolved and I now want to teach at the university level; however, I still have a strong desire to be involved with math education at the high school as well as the university level. As professor I will be involved with the local secondary schools through tutoring programs and establishing university days where high school students are exposed to university level mathematics."

You can contact Bret at:
bmh35@cornell.edu

Where are they Now?

AMTNJ members would like to know about teachers we supported through our scholarship program. Each issue will include information about a former scholarship winner in our "Where Are They Now?" feature. If you know of a scholarship recipient and would like to tell his or her story in the AMTNJ Newsletter, please contact either of the co-editors.

Association
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New Jersey

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amtanj@juno.com

Were on the Web!
See us at:
www.amtnj.org

Back Page Problem Contest

A winner will be randomly selected from all AMTNJ members who submit a correct entry before Sept 30. The winner will receive free registration to the NCTM/AMTNJ Regional Conference in October. Send your name, school address, email, and the answers to: Carmen Archetto, Bergenfield HS, 80 S. Prospect Ave. Bergenfield, NJ 07024 or e-mail: carchetto@bergenfield.org

Congratulations to Back Page Winners: Karen Singer, Clifton HS, Carol Rodano, Bunker Hill MS and Chuck Eccles!

- | | | |
|---|---|--|
| 1. Why are manhole covers round? | 3. Arrange the numbers 1 to 8 in the grid below such that adjacent numbers are not in adjacent boxes (horizontally, vertically, or diagonally). For example, this arrangement is wrong because 3 and 4, 4 and 5, 6 and 7, and 7 and 8 are adjacent. | 1
6 4 3
2 7 5
8 |
| 2. Write 271 as the sum of positive real numbers so as to maximize their product. | | |

Solutions to the May Contest

- Eleven: $23 = (1+1) \times ((1+1) \times ((1+1) \times (1+1) + 1) + 1) + 1$
- The largest currently known prime, $2^{30,402,457} - 1$ which is 9,152,052 digits
- Pick a number, any number. Did I hear you say 63? Fine. List the divisors of 63, and for each divisor of 63, count the number of divisors it has:
63 has **6** divisors (63, 21, 9, 7, 3, 1)
21 has **4** divisors (21, 7, 3, 1)
9 has **3** divisors (9, 3, 1)
7 has **2** divisors (7, 1)
3 has **2** divisors (3, 1)
1 has **1** divisor (1). The resulting collection of numbers has the same cool property. Namely

$$6^3 + 4^3 + 3^3 + 2^3 + 2^3 + 1^3 = 324 = (6+4+3+2+2+1)^2.$$

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